

ABSTRACT

A slicer for a decision feedback error equalizer system that processes trellis encoded data using the ATSC trellis code is implemented in two parts. A first part includes a trellis decoder that estimates a single bit of the symbol. The second part includes two partial trellis decoders. A multiplexer directs the received digital samples to one of the two trellis decoders responsive to the estimated symbol. An alternative slicer estimates two bits of the output symbols and selects from among four decoders to fully decode the symbols. The slicer is used in an equalizer having adaptive filters that may operate either on passband or baseband signals. The slicer is used both to recover the carrier signal on which the symbols are modulated and to provide symbols to the second filter that are used to determine filter coefficients for the second filter.

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